

**SIGNIFICANCE OF INFOGRAPHICS IN CONTEMPORARY DESIGN REQUIREMENTS AND
INFOGRAPHIC MAP OF BODRUM CASTLE AS AN EXEMPLARY APPLICATION***

**GÜNCEL GRAFİK TASARIM GEREKSİNİMLERİ İÇERİSİNDE İNFOGRAFİKLERİN ÖNEMİ:
BODRUM KALESİ İNFOGRAFİK HARİTASI**

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Abstract

Infographics that are used in very different areas like education, health, company presentations gain importance also in museums. Today, the concepts like visitor experience, new exhibitions techniques, and information transitions are shaping modern museums approaches. And also in the last years, visitors' positive museums experience that shaped by exhibitions techniques, level of knowledge of museums staff, additional services, information transition becomes an important research area of art marketing literature.

Bodrum Castle and Underwater Archaeology Museum is the case of this study. First, three different graphic design works were designed. After, a questionnaire was made to 35 local and foreign visitors in order to measure the functionality, performance and effects on visitor experience of these design works, this study aimed at raising brand value of this worldwide known museum as well as emphasizing the need to use infographic design in public sector. Accordingly, infographics maps effects visitors' museum experience positively, contribute and facilitate information transition simple and memorable manner in knowledge intensive places were some of the findings of the research.

Keywords: Infographic, Design, Infographic Map, Bodrum Castle.

Öz

Eğitim, sağlık, ulaşım, şirket sunumları gibi çok farklı alanlarda kullanılan bilgi grafikleri, müzeler için de önem kazanmaktadır. Günümüzde yeni sergi teknikleri ve bilgi geçişleri gibi kavramlar, ziyaretçi deneyimlerini dolayısıyla modern müze yaklaşımlarını şekillendirmektedir. Ayrıca son yıllarda, müzelerdeki sergi tekniklerinin, müze personelinin bilgi donanımının, ek hizmetlerin ve bilginin görsel desteklerle yalın ve basit sunumlarının, ziyaretçilerin müze deneyimlerini olumlu şekillendirmesi sanat pazarlama literatürünün önemli bir araştırma alanı haline getirmektedir.

Bu çalışmanın konusu, Bodrum Kalesi ve Sualtı Arkeoloji Müzesi için önerilen bilgilendirme tasarımlarıdır. İlk olarak, kurum için üç farklı alanda grafik tasarım çalışması önerilmiş ve bunların gereklilik ve üretim süreci tanımlanmıştır. Daha sonra, bu tasarım çalışmalarının işlevselliğini, performansını ve etkilerini ölçmek amacıyla 35 yerli ve yabancı ziyaretçiye bir anket yapılmış ve dünya çapında bilinen bu müzenin marka değerinin yükseltilmesi ve kamu sektöründe infografik tasarım kullanım ihtiyacının vurgulanması amaçlanmıştır. Buna göre, infografik haritaları ziyaretçilerin müze deneyimini olumlu etkiler, bilgi

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geçişine katkıda bulunur ve kolaylaştırır Araştırmanın bulguları arasında bilginin yoğun olduğu yerlerde, bilgi görsel olarak özetlenebilirse paydaşların bu bilgiyi anlayıp hatırlamalarının çok daha kolay olduğudur.

Anahtar Kelimeler: İnfografik, Tasarım, İnfografik Harita, Bodrum Kalesi.

1. Introduction

Graphics design is a visual communication form that used to relay message or information to certain target audience. It is a visual presentation of an idea carried out by means of creating, selecting and organizing visual elements. It persuades, informs, defines, motivates, enhances, organizes, incites, locates and relays (Landa, 2011:2). Planning, designing and presenting the visual elements exercised in the exchange of emotion, information and message between individuals, societies, institutions and the target audience fall in to the field of graphics design. Today graphic design is an interdisciplinary branch that organizes socio-cultural collections in modern societies through aesthetic and artistic interpretations. In that respect, the basic goal of graphic design is communication, it is the visual side of communication process.

Rapidly developing communication technologies today has been changing, transforming the ways we communicate. Today, traditional communication that *the audiences are in the state of passive receiver of message* has been replaced by *interactive communication* concept and has become much more dynamic, two-way, instant and open to improvement. Also today the individuals are informed about almost everything instantly within the plethora of information provided by internet and can access information much more easily and rapidly. In this regard, the graphics design continue to developed in order to provide a solution for specific needs for different areas that think about how to transmit information to target audience.

Human being develops changes and makes sense of the world with information. Civilizations are the products of collectable and usable information. Information is the foundation of change; this change begins with making sense and interpreting existing data, concepts, historical events from past to present. Yet, ever growing information density has made it difficult to access right information as well as has become such an irony of the century

in that it has hampered clarity and memorability. Infographics as an informing design organize by blending great deal of information (message) with visual content (graphics design); stands out with the aim of making information presentable burr-free, attractive, clear and memorable.

Infographics, which is also called *information graphics*, is a practice area for information design. Infographics that have a broad range of application area -documents, forms, manuals, environmental graphics designs, educational documents, maps, schemas and charts- designed after the process of setting, planning and shaping the information in line with users' demands. It aims at organizing and controlling to introduction of investigated, purified and filtered information out of existing stack of information to the audience (Güler, 2008:9).

Today, the changing nature of museums necessitates new perspectives of communication with their visitors. Museums are still accepted as places where visitors seek to authentic, inspirational, creative learning experiences and they also have the mission to serve the public (Çelebi, 2014:373). Thus, today the museum is becoming more than an exhibition place, since its commercial, educational, cultural function and entertaining activities are being intertwined more and more each day (Aalst and Boogaarts, 2002:197). Because of the changing nature of museums and visitors, the executives, academics and researchers start to think about new and attractive approaches about the museum visitors' experiences in the last years. Today, especially archaeology museums that exhibit huge amount of historical information are faced with the necessity to adopt new perspectives on exhibition, transition of information, additional services, educational function, and visitor experiences. In this regard, infographics have an important facilitator role of information transition in easy, understandable and memorable manner to increase visitors' positive museum experience.

In this respect, the aim of the study is to investigate the necessity and effectiveness of the usage of infographics for archaeology museums as a roadmap for visitors while they are walking around the museum. Thus, at the first part of the study, the concept of infographic design, its function and importance are examined. After, at the second part, the importance of infographic maps for museums is discussed and at the last part of the study, infographic maps of Bodrum Castle and Underwater Archaeology Museum that were produced for this study

alongside a sign logo of Bodrum Castle will be analysed as an exemplary application and an empirical study on the effectiveness and usability of the infographic maps is introduced.

2. What is Infographic Design?

Visualization of data and information dates back to 30.000 BC's; Egyptian hieroglyphs in 3000 BC; in 1350, French philosopher Nichole D'Orseme's first graphics studies on gauging a moving object; in 1510 Leonardo da Vinci's leading drawings using text and illustration on human anatomy; and in 1786 William Playfair's, one of the pioneers for data visualization, relaying for the first time the numerical data to linear, pie and bar graphics in his book *the Commercial and Political Atlas and Statistical Breviary* are all accepted as the pioneers in data visualization and infographic (Smiciklas, 2012:8). Especially after 1940's infographics widely used in magazines and newspapers ant today they are almost everywhere (Dur, 2014:5). From company presentations to branded contents, from digital medium to printed contents, infographics are in use in many fields and sectors such as non-profit organizations, health, technology, public relations and marketing, tourism and education.

Informing is one of the functions of graphics design such as communication or grabbing attention; however not all graphics design product is called infographics; infographics contain dense information thus information is the foundation of infographics (Dur, 2014:48). In information design content rather than form is indicative, something not needed is not rare, decorative nor garish, is needed (Dur, 2014:26). Briefly, infographics exists within functionality it produces through amount of data by the field of design.

Purpose of data visualization and infographics is to present irregular and tangled information in a way that is more planned and clear. Although both concepts have the same common goal, they have different application forms and meanings. While data visualization is visualizing numerical data in graphics, tables, charts and converting raw numerical data in to visual presentation (Dur, 2014:41), infographics may have many design elements such as imagery, typography, illustration, color, map, schema (Güler, 2008:83). Infographics, also one of the application fields of information design, differs in other application fields of information design in terms of storytelling and drawing attention.

Best infographics tell completed stories and they resemble more like an article or speech than a chart. Their goal is to inform, entertain, impress and to persuade. It generally consists of an impressive introduction that draws attention of the reader that highlighting it worth to be read, a body section in which details about the subject, and a conclusion section that leading and calling the reader to action (Güler, 2008:6). A successful infographic design is not only an eye pleasing data visualization creation, but also is a setting of correct storytelling. Amount of presented data determines whether the design is an infographic or solely a graphics design (Güler, 2008:65).

Infographics, according to Krum, has six types: According to level of complexity in their design; static, zoom in, clickable, moving, video and interactive infographics (Krum, 2014:31). In Image 1 (Lankow, 2012:82), one can see degree of interaction in static, motion and interactive infographics in brief and differences in terms of the way information are processed. In static and motion infographics, information is stationary, interaction is low. In interactive infographics information is updated manually, audience are active, interaction with the audience is supported.

Infographic Formats Quadrant.
DISPLAY UPDATES

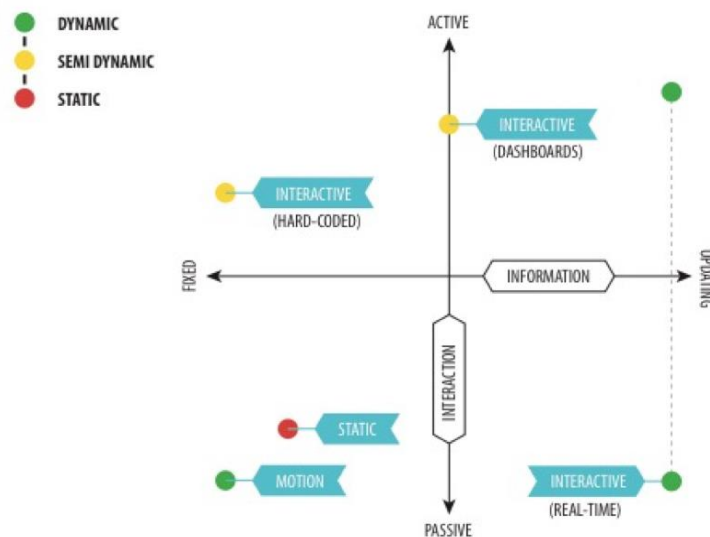


Image 1. Infographics Formats, 2012.

2.1. Rising Significance of Infographics and its Function

We encounter everyday stack of data coming from all different sources such as news, ads, e-mails, speeches, short messages, tweets, books, billboards, signs and videos. The greatest difficulty we come across in the process is to grasp ones that are redundant and useful and to filter those that are unimportant (Krum, 2014:9). Also, other difficulties encountered come forward as focus, making-sense and remembering what is learnt. Krum calls this push-pull problem; while we struggle to extract important ones out of a stack of information, companies and advertisers sustain constantly information and message flow that will make them noticed (Krum, 2014:9).

Most important reasons of the usage and preferability of infographics are related to the human brain process and preference of visual elements than written. In a research performed by Dr. Martin Hilbert of University of South California in 2007 states that we are exposed to information bombardment equivalent to an average of 174 newspapers (each with 85 pages) every day, however in 1986, that it was only 40 newspapers. In the same research, uncompressed data in the early 1980's having a balance of 50% visual and 50% text turned up to 67% visual and 33% text in one year by compressing visual datum with less loses or by converting format; thus it is highlighted that heavy demand for visual information consumption is satisfied with gradual increase in supply (Hilbert, 2011). Today we witness that once in almost a few years wireless data transmission speeds (2G, 3G etc.) are upgraded in such a way to relay motion images much faster. A similar research states that works of art written in all languages throughout human history has a volume of data 50 petabyte¹ in total; nevertheless 24 petabyte of data is processed in Google each day (Dean and Ghemawat, 2008:107-113). According to Cisco Visual Networking Index, it is estimated that more than 120.000 petabyte/month of internet traffic will be until 2017 (Cisco, 2016:2013).

In the last 50 years advancing communication technology has created a common language based on visual memory among different languages and cultures stunningly. One of the major reasons of the visual gaining priority and becoming preferable is that more cognitive

¹ Petabyte (PB): Volume of data used in computer equivalent to 1024 terabyte.

activity is required to keep in mind the abstract concepts compared to tangible objects. Therefore cognitively it is more efficient to materialize information in various ways and then to keep in memory. It is, without doubt not a coincidence that many concepts or leadings in almost all cultures dependent on communication technology are expressed by visual symbols alike. These are often graphic symbols called pictograms. Visual patterns comprising infographics are usually pictogram originated ones. This is an efficient way for data communication. It allows too many different numerical data to be located in a small area in an extremely clear and memorable way.



Image 2. Infographic design for İstanbul Haydarpaşa Station, 2017.

Thus, basic function of infographics is to relay specific information requiring expertise in the form of clear visuals, in the perception level of ordinary person. While doing so it suggests a design that has aesthetic harmony enabling the recipient to focus. Infographics combine data with design in order to facilitate the learning. Thus irregular information in the process of communication finds capability to be relayed much faster and in a clearer form (Smiciklas, 2012:4). For example İstanbul Haydarpaşa Station Infographic which contains detailed, historical and contemporary information about the station and also demonstrates facilities of the station in an attractive, understandable and clear manner exemplify the basic requirements of infographic design. It is designed by 'Şehrine Ses Ver' initiative or by their

description 'social design initiative' and its include information about Haydarpaşa Station like history of the station, materials used in construction, architectures, revenues that come from movies, series and advertising that shouted at the station. Thus, transition of information is supported by popular concepts like shouted movies and famous Yeşilçam Actors' views about the station in spite of its design perspective that transmit information in a simple, attractive and memorable manner. In addition, there is a request of protection of Haydarpaşa Station that meets the criteria of list of Word Heritage.

In Turkey, it is difficult to find infographic design applications for government-run museums and archaeological places like Haydarpaşa Station. In fact infographics are important and effective tools of communication for places that have also an economic, social potential for the country's reputation and development. Communication that needs an integrated corporate perspective also have an important and effective function on museums' visitor's positive experience that ensure a meaningful increase in the number of visitors. Accordingly, developing new communication perspectives like infographics is important, necessary and urgent especially in the countries like Turkey who have a fascinating cultural heritage but less interest on it.

3. The Importance of Usage of Infographics for Museums' Visitor's Experience

Museums are places that collect, register, exhibit, keep, protect object and artworks that are related to science, human history and art; and also they are institutions that meet peoples' needs of researching, education related to their interest. They provide an informal environment of education (Yücelt, 2001:4). Accordingly, museums are places that visitors get periodical, cultural, social, historical information voluntarily about work of art. Thus, get information is the most important one motivation of museum visitors.

Depending on the visitor's experience design, researchers and practitioners are in tendency to redefine the concept of museum in last years. Museums along with science centers, aquariums and zoos were described as "educational leisure settings" (Forrest, 2015:3). Thus, museums become recreation areas and entertainment places besides educational function. And alongside exhibition areas, additional services like restaurant, gift-shop, education activities, workshops are becoming important touch points to visitors.

According to Xie, museums visitors have four different attitudes like have fun, being serious about the subject, want to experience, want to walk around and see towards museum visit (Xie, 2013:13). At another research that investigate visitors' satisfaction, interest, services quality at 24 different historical places and museums; museums' visitors' motivations categorized to 5 different factors that first two of them are general interest in history (% 54.7), interest in subject matter (% 17.7) (Yücelt, 2001:9).

In general in all educational, presentation and introduction systems it is aimed the target audience be informed by reading. However each reading after the first one, former information lose their meaning and they horde (Güler, 2008:75). One of the most significant features of infographics is the contribution to learning. Smiciklas specifies the benefits of infographics as follows: "information facilitates understanding the idea and concepts, organizes ideas and improves critical thinking, facilitates remembering and bearing in mind the information" (Smiciklas, 2012:11). Thus, benefits of infographics in knowledge intensive places like archaeology museums are important because of the direct effect of visitors' positive museum experience.

Museums are not only relay information; according to Çalışkan, today museums offers two things to visitors, one of them is collections that includes objects and archives, the other one is information that was formed by historical events and stories (Çalışkan, 2016:26-42). The most important feature of infographics is to transmit information by storytelling format. Smiciklas points out that infographics can be a useful tool for storytelling "Infographics create an inference of emotion that guides audiences to the significance of the concepts being presented" (Smiciklas, 2012:52). Thus, for museums' visitors, infographics can be useful and helpful tool to get information about art works much more easily in a simple way.

4. Exemplary Application: Infographic Map of Bodrum Castle

In Turkey museology, started after 150 years from Europe by collecting and storing up old art works to specific places. At the first years of the Republic of Turkey, especially archaeology, history, ethnography, arts crafts and Islamic arts would be the main issues of Turkish museums that were growing rapidly until 1980's. Following the enactment of the "Law

on the Protection of Cultural and Natural Assets” dated 1983, numbered 2863, the museum was first dealt with in the state administration and the museum activities were carried out daily by a central authority (Kervankiran, 2014:345-369). According to TUIK (Turkish Statistical Institute) 2015 data, there are 193 museums affiliated to the Ministry of Culture and Tourism in Turkey, while there are 216 private museums. 63 of the museums within the Ministry are found in archaeology and history, 44 in ethnography and archaeology museum and 86 in general museum category (TUIK, 2015).

In Turkey, it is not possible for the museums to make autonomous decisions, and many activities such as promotion and advertising are required to be approved by the ministry. Tayfun Selçuk, the director of the Bodrum Underwater Archeology Museum, points out that most of the decisions regarding the functioning of the museum are adopted with the approval from Ankara and there is no separate budget for advertisement activities; however Selçuk indicate that such a budget can be obtained through the projects to be given to the Ministry (Selçuk, 2017).

Today, the number of museums in Turkey is low, even in some of the provinces except for the major cities like Istanbul, Izmir and Konya. So the number of museums, museum visitors and museum revenues are far below expectations in Turkey where the world's oldest civilizations live. The average number of museums per 100,000 people in Turkey is 0.3, which is far behind European countries (Kervankiran, 2014:345). Therefore, to develop museums in Turkey, the adoption of contemporary museum insights, the development of new perspectives in business and management forms, the development of visitors' positive experience, budget allocation and prioritization of marketing promotional activities, and the effective use of digital communication channels are important steps to be taken.

4.1. Brief History and Present of Bodrum Underwater Archaeology Museum

Bodrum Underwater Archaeology Museum, which received ‘Special Praise’ award in Museum of the Year Contest in Europe in 1995, is one of the richest underwater archaeology museums of the world with its six sunken ship findings of antique age. The museum, one of the major institutions that best practice the understanding of contemporary museology in our

country has a big part in Bodrum's international tourism too. Other significant and interesting aspect of the museum is that it has been using Bodrum Castle as venue, whose history dates back to archaic period.

Early architectural examples of the Castle date back to 4th century B.C. A big wall of the palace thought to belong to Maoussollos followed by disclosure in archaeological excavations carried out in 1990's, and architectural remnants of Apollo Temple predicted to have been located inside the castle, are of the period of Satraps. It is known that a castle was built in Byzantine and Turks period following the Late Antique Period, on a rocky floor where the castle was first built. There is no definite data as when the castle was first built. Bodrum Castle owes its solemnity and its real reputation certainly to St. Jean Chevalier cult. It is difficult to detect the history of St Jean or Chevalier cult (Latin: Cavalieri Ospitalieri). It is said to have been formed in around 1070.

During World War I the castle was bombarded by French battle cruiser Dupleks and was seriously damaged (Galanti, 1945:77-78). After Republic was founded, Bodrum Caste was left to its fate until 1958. On this date, the fact that pioneers such as American journalist-diver Peter Trockmorton, Captain Kemal Aras, Mustafa Kapkın, Honor Frost uncovered for the first time the sunken artefacts and gathered them up in the castle brought the castle again to the agenda. As of 1961, Bodrum Museum was opened in the control of Ministry of Culture with the order of Turkish Government. After restorations, exhibiting underwater artefacts in the museum commenced in 1966.

Bodrum underwater Archaeology Museum has 14 exhibition sections including the World's oldest sunk that was dated back to 14th century B.C. The old cannon blockhouse at the entrance of the Castle was transformed in to art gallery; exhibitions take place along the summer at some open venues. There are a total of 77 people working in departments such as art history, security and accounting, along with 14 specialist archaeologists, and there is not a department for public relations and promotional activities in the museum. The museum director Tayfun Selçuk, who stated that the budget can be taken from the ministry for applications such as museum directories and information panels, but he also indicates that activities such as museum promotion and interior arrangement are taken for suspension due to

the restoration works planned for two years, and any new application will not be accepted from the center. Today, the museum is visited by an average of two thousand people, especially in July and August; and the total number of visitors within a year is about three hundred and sixty thousand. However, the number of visitors has declined by 20% in the last few years, which is related to the national and international conjuncture through which Turkey is headed (Selçuk, 2017).

4.2. Visual Designs Offered for Bodrum Castle and Underwater Archaeology Museum

In this study, there are three different designs consisting of a sign-logo and two infographic maps developed for the Bodrum Castle and the Underwater Archaeology Museum. The reason why the sign-log design is included in the study is to establish a holistic corporate identity. Castle corporate identity catalogue that contains Bodrum Castle's (Underwater Archaeology Museum) logotype, letterhead usage media, infographic presentation and all direction designs, is submitted as a project ready to implement. Castle's visual identity and its infographic map were designed considering its historical development and purpose of current usage.



Image 3. Sign and Logo for Bodrum Museum of Underwater Archaeology, 2016.

Bodrum Castle and sign for Bodrum Underwater Archaeology Museum are the main visuals of logo. Sign was studied through silhouette display taken from the northeast of the castle. It is an authentic design, which is composed of three brushstrokes on Italian and French towers that rise above their own piece of land. The sign is best named as 'logo' when it is used together with picture 'text', which attributes to history of the castle. The sign cannot be used alone, cannot be disintegrated or recreated or cannot be changed.

Bodrum Castle, logo for Bodrum Underwater Archaeology Museum (when sign and logo are used together) is an instrument that best represents the institution and services. The originally designed text 'Bodrum Castle, Bodrum Underwater Archaeology Museum' is inseparable from the sign. Logo is an authentic work carried out on order. Totality of the logo cannot be disintegrated, recreated nor changed. It was prepared black and white. Defined colour in each place is its original colour; therefore, in every instance digital document must be used. In trichromatic printings colour separation must be used.

The infographic map prepared within the scope of the project that is to be placed at the inner-castle entrance of the museum has been designed with the aim to have an easily understood and ambulatory castle and exhibition sections.

Two different designs were created. First of these (Image 4) contains general information about castle and the museum. Bodrum Castle has extremely elaborate appearance housing large and small many patterns and the most crucial step in preparing Bodrum Castle's infographics is to obtain a visual of the most correct angle and undoubtedly to accomplish this through a professional illustration.

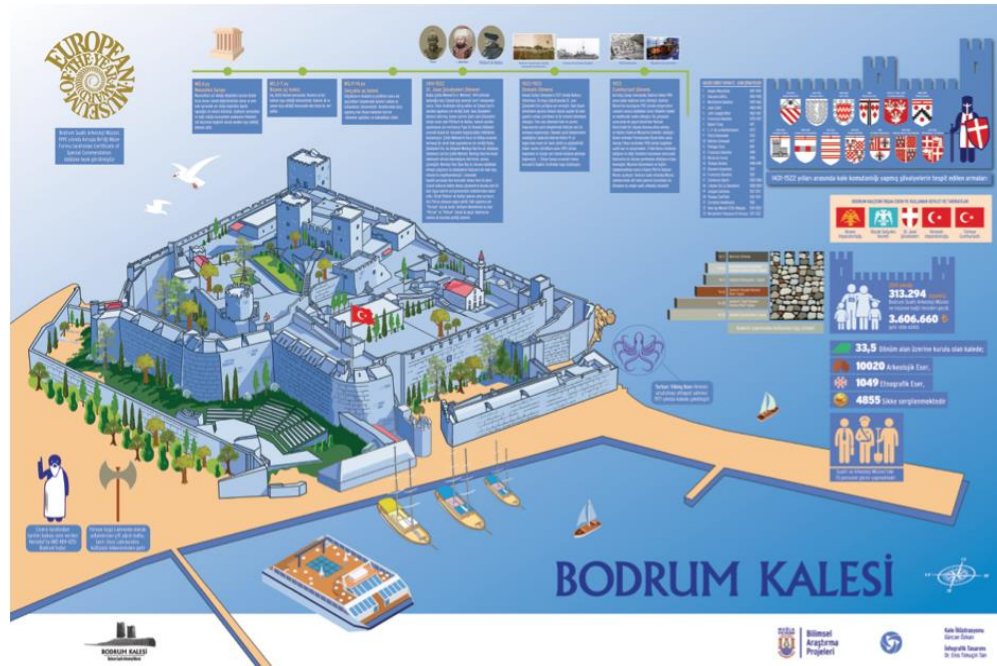


Image 4. "General infographic map" designed for Bodrum Castle Museum, 2016.

To achieve this air shots were taken by using a drone from northeast angle of the castle. Structural part of the illustration was made by famous illustrator Gürcan Özkan, using isometric vector-based software. Infographic design is designed by Enis Timucin Tan. The sketch created by tens of layers aims at perceiving the structure with all sections by the audience in the easiest way. The structure at the farthermost of the peninsula comprising the Bodrum harbor was placed mid-left of the frame thus empty spaces created suitable backdrop for the infographic design. Information contained in the infographic schema; histogram telling the historical adventure of the castle and the region, arms of St. Jean Chevaliers, materials used in construction and their quantity, stats of museum visitors and staff, class and quantities of art pieces exhibited, and other castle features. Created vector-based, can be scaled at any proportion.

As for the second infographic design (Image 5), it was planned to be located at museum's inner-castle door pace, which is the main entrance. It has direction signs charted on the same illustration explaining sections, which first time visitors shall tour. Created vector-based, can be scaled at any proportion.



Image 5. "Infographic map of directions" designed for Bodrum Castle, 2016.

4.3. Case Study: Analysing The Effectiveness and Usability of the Infographic Maps of Bodrum Castle and Bodrum Underwater Archaeology Museum

The infographic maps of Bodrum Castle and Bodrum Underwater Archaeology Museum that introduced above are testing by the help of an empirical study. At the first study an in-depth interview is made with the manager of the Bodrum Castle and Underwater Archeology Museum. And at the second study, infographic maps are given 35 different international and local visitors before they start walking around the castle and the museums.

Of the 35 respondents who responded to the survey, 16 were female and 19 were male. 24 of these are citizens of Turkey, 11 are citizens of other countries and 28 people had touristic reasons in the presence of Bodrum. The questionnaire consists of three parts; the first part consist of demographic information of respondents, the second part was asked about the motivations to visit the Bodrum Castle and the Museum of Underwater Archaeology, how they heard about the museum, internal directions of the museum, additional services, personnel and management understanding, information about the museum/artifacts and satisfaction ratings. The final part of the questionnaire was shaped on the designed infographic maps.

According to those who answered questioner, question nine and fifteen are the first two visiting motivations of Bodrum Castle and Underwater Archaeology Museum in proportion of 85.7%. This result indicates that the content of the museum is closely associated with the visiting motivations. In addition to these, 82.9 % of the visitors indicate that history is always interesting for them and %57.1 of the visitors indicates that they want to make time for a useful event for personal development (Table 1).

Table 1. Visiting Motivations of Visitors

	YES	NO	NO İDEA
Q.8. History is always interesting for me	82,9%	2,9%	14,3%
Q.9. Seeing and be informed historical places and ruin is interesting	85,7%	0,0%	14,3%

Q.10. I am here to have fun and have a good time	54,3%	20,0%	25,7%
Q.11. I wanted to make my time for a useful event for my personal development	57,1%	8,6%	34,3%
Q.12. I am here with my friends or relatives	28,6%	45,7%	25,7%
Q.13. I am interested underwater	48,6%	17,1%	34,3%
Q.14. I am interested underwater history and ruin	54,3%	14,3%	31,4%
Q.15. It is interesting to see the historical places and the museums in the cities I travelled to	85,7%	2,9%	11,4%

42,9 % of the respondents indicated that they have heard about Bodrum Castle and Underwater Archaeology Museum from their relative/friend environments and also by word of mouth. Despite the importance of the use of digital communication channels in publicity activities in today world the museum does not have its own website or any official social media account. Information can be obtained from muze.gov.tr, which is a website conducted by The Ministry of Culture And Tourism and from the website of Bodrum Municipality.

The second part of the questionnaire consists of questions on museum experience, made up of four different criteria. First of these is related to the level of knowledge acquired about the museum and the artifacts. 57.1% of the respondents indicated that they had attained satisfactory information about the castle and its history, while 48.6% stated that they had difficulties in reaching the sources with information about the exhibits in the castle and the museum (Table 2) This ratio is one of the most important areas to be studied in order to increase visitor experience and satisfaction in the positive direction. The way in which information is conveyed in knowledge-intensive places such as the Bodrum Underwater Archaeology Museum is one of the most important criteria in terms of the remembrance of museums.

Table 2. Museum Experience of Visitors

INFORMATION	YES	NO	NO IDEA
Q.22. I have difficulty reaching the sources -brochures, maps, booklets ... etc.- that I can learn about the castle and the museum	48,6%	37,1%	14,3%
Q.23. The information I got about the castle and its history was satisfactory	57,1%	17,1%	25,7%
Q.24. I had enough information about the historical artifacts and the periods.	57,1%	25,7%	17,1%

The second criterion is that visitors' satisfaction level with the additional services such as toilet, gift shop, and cafe. According to the results of this criterion, 28.6% of the participants stated that they were satisfied with the supplementary services, 31.4% were not satisfied, and 40% had no ideas. Even 68.6% of the visitors stated they did not enter the gift shop. However, in today's museum understanding, the museums are also located as entertainment and recreation areas at the same time and additional services other than exhibition forms are becoming increasingly important. In this context, Bodrum Underwater Archaeology museum needs to be rebuilt in the framework of modern museology insights. 60% of the respondents stated that the in-museum referrals were clear and open, whereas 40% said that they wanted to know where they were located and 34.3% said they were insufficient (Table 3). The directors are very crucial at the castle located on 33.5 acres of land; 40% of the visitors have the feeling that they are lost sometimes. This would probably have a negative effect on the museum experience and at the same time the information about the artifacts will be far from being complete.

Table 3. Satisfaction Level with the Additional Services

DIRECTIONS	YES	NO	NO IDEA
Q. 28. All directions were clear and understandable	60,0%	28,6%	11,4%
Q.29. Inadequate orientation within the museum	34,3%	48,6%	17,1%
Q.30. I thought I was lost sometimes	34,3%	60,0%	5,7%
Q.31. I wanted to know where my location is	40,0%	51,4%	8,6%

The last part of the questionnaire is about the infographic maps shown at the entrance of the museum to visitors. In this section, questions for both infographic maps were established separately. According to this, 65.7% of the visitors stated that the infographic map of Bodrum Castle helped them to get information about the history of the Castle, and 57.1% stated that the map helps to get in-depth information about the era and the artifacts. 48.6% of the participants stated that the infographic map affected the castle and museum experiences positively, but the ratio of those who gave the opinion that there was no idea was 48.6% (Table 4).

Table 4. Bodrum Castel Infographic

BODRUM CASTLE INFOGRAPHIC	YES	NO	NO IDEA
Q.37. Infographic helped me to learn about the history of Bodrum Castle and its history	65,7%	5,7%	28,6%
Q.38. The infographic map was interesting in terms of content	51,4%	5,7%	42,9%
Q.39. The way in which the information was given in the infographic map (design) was interesting	51,4%	8,6%	40,0%

Q.40 Before exploring the Castle and the Underwater Museum, it was helpful to review and navigate the infographic to get a more in-depth knowledge of the artifacts and periods	57,1%	5,7%	37,1%
Q.41. Infographic of Bodrum Castle influenced castle and museum experience positively	48,6%	2,9%	48,6%
Q.42. The information such as the stones used in the castle, the staff and the museum income caused me to be more interested in the history of the museum	34,3%	8,6%	57,1%

The second infographic map contains information for the visitors about where they are, which era the artifacts belong to that they are observing. In addition to the information contained in this map, there is also a function to assist the visitors to draw a road map throughout the museum. 60% of the respondents found the information content on the map interesting and 62.9% said it helped them understand where they were walking around the museum. Also 54.3% of the participants found the map more useful than the information panels and directions in the museum; 42.9% of the participants stated that the map had a positive effect on museum experiences (Table 5).

Table 5. Infographic Map of Bodrum Underwater Archaeology Museum

INFOGRAPHIC MAP OF BODRUM UNDERWATER ARCHEOLOGY MUSEUM	YES	NO	NO IDEA
Q.43. The map is interesting in terms of the information it contains	60,0%	8,6%	31,4%
Q.44. Map is interesting in terms of design	40,0%	8,6%	51,4%
Q.45. The map helped me understand where I was when I was walking around the museum	62,9%	8,6%	28,6%
Q.46. The information on the map is more useful and detailed than the directions in the museum	54,3%	5,7%	40,0%
Q.47. Infographic map of Bodrum Underwater Archaeology	42,9%	11,4%	45,7%

Museum influenced my museum experience positively			
Q.48. The map was helpful in terms of obtaining more comprehensive information about artifacts and periods	45,7%	11,4%	42,9%

The analysis carried out in the study was based on two designed infographic maps. The aim is to show that aesthetic, attractive and easily-remembered presentation of information on infographic maps have positive effects on the museum experience in areas where the space covered, such as the Bodrum Underwater Archeology Museum, is large and the information presented is extensive. The survey study created in this context is based on the following two hypotheses:

Hypothesis 1: The guidance and the directions the visitors have encountered, assist them to gain detailed information about the museum and the artifacts. These advances their museum experience and make them think positively about the museum.

Hypothesis 2: Infographics and infographic maps are interesting presentation models in terms of design and information transition. It helps the visitor to develop a holistic view of the museum and artifacts.

Based on the analysis of hypothesis 1 questions, it is concluded that 48,6% of the participants stated Bodrum Castle infographic map and 42,9% stated Underwater Archeology Museum infographic map had positive influence on their museum experience. The answers to the questions related to Hypothesis 2 showed that Bodrum Castle Infographic Map was interesting in terms of design and information as 51.4% (Q.38.-Q39) and 57.1% (Q.40.) stated that they acquired in-depth knowledge of museum and artifacts, and that it is useful to look at such a map before navigating the museum.

5. Conclusion

When infographic applications are performed right and aesthetically, they produce an added value facilitating life through right, brief and permanent relay of information, from educational system to social informing, from business world to technology and health services. While doing so it can reach out to recipients of all education level and it performs clear

presentations. Contrary to modern societies who know the importance of presenting and using information functionally and implement this method prevalently in their corporate structures, this method is not known by developing countries and its use remains extremely limited except certain areas or it is done unconsciously. It is observed that, contrary to private sector in Turkey, let alone many public bodies and institutions having not a correct corporate and visual identity, they even are not aware of it.

It is not possible to say that this awareness has developed in Turkey, especially in the museums connected to the Ministry of Culture and Tourism. Bulky bureaucratic structures and regulations prevent the museums from acting autonomously in activities such as advertising, promotion, museum interior operations, etc., and all the planned applications must be approved by the related main organization. For this reason, the bulky structure of the museums, which should especially contribute to the tourism, education and cultural moments, is also make them self-closed to new approaches. However, the world of museum and art marketing now goes beyond just exhibiting artifact; experience of the visitors gaining importance, the presentation method of knowledge and the way artifacts are exhibited is tending towards interesting, interactive and digital applications based on the visitors importance is increasingly becoming more and more important

Bodrum which is very popular and important international and national tourism destination has many opportunities for history tourism also. Bodrum Castle and Underwater Archaeology Museum is one of the most important places in the area for history tourism. Because of its historical importance, Bodrum Castle needs innovative approaches for publicity, marketing and facilities. In the study, the Bodrum Castle and the Underwater Archaeology Museum were considered as case studies and two infographic maps were designed to present an alternative approach and suggest a solution. Due to the restoration and reorganization studies that will be started in the castle and the museum, these designs are not considered to actualize in the near future. However, the questionnaire study and the in-depth interview with the museum director point out to the necessity of such approaches.

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Image 1. Infographics Formats, 2012.

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Image 2. Infographic design for İstanbul Haydarpaşa Station, 2017.

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Image 3. Sign and Logo for Bodrum Museum of Underwater Archaeology, 2016. Designed by Coşkun Türk and Enis Timuçin Tan.

Image 4. "General infographic map" designed for Bodrum Castle Museum, 2016. Designed by Enis Timuçin Tan & Gürcan Özkan.

Image 5. "Infographic map of directions" designed for Bodrum Castle, 2016. Designed by Enis Timuçin Tan & Gürcan Özkan.